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ABSTRACT

Efforts to monitor the financial condition of colleges and universities have arisen from concerns about the effects of economic and demographic pressures. Researchers have attempted to monitor financial condition through two types of research: subjective studies and objective financial indicator studies. Subjective analyses can be useful for gauging constituent satisfaction with financial performance and priorities. Efforts to create objective indicators reflect a desire to monitor measurable changes in financial condition and to maintain financial strength through the effective use of available resources. An example of a commonly used financial indicator is the ratio of instructional expenditures to total educational and general expenditures. Some financial indicators may entail nonfinancial data (e.g., the ratios of new freshmen to total applicants accepted). The interpretation of a financial indicator rests on an assumption of what constitutes "sound" financial condition. For example, overreliance on tuition income is frequently cited as evidence of weak financial condition. The assessment of institutions can be undertaken by experts or based on a theoretical framework. Applications and limitations of financial indicators have been discussed in the literature. (SW

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Monitoring the Financial Condition of Colleges and Universities

by Barbara Taylor

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Observers of higher education's current financial difficulties often trace them to a "cost-income squeeze" that began in the early 1970s (Cheit 1971). As the reality and seriousness of that earlier cost-income squeeze became widely apparent, researchers sought more systematically to document higher education's financial plight and predict its likely effects (California Postsecondary Education Commission 1979; Jenny & Wynn 1970, 1972; Jellema 1973; Minter & Bowen 1980). These undertakings led to other efforts to understand and monitor the financial condition of colleges and universities.

Understanding Financial Condition

Understanding institutional financial condition implies that a standard exists by which relative financial strength can be judged. The "balanced budget" criterion alone is not adequate. The true key to financial well-being may be in an institution's ability to finance both short-run and long-run costs (Jenny 1979b).

It is relatively easy to determine if an institution is meeting its short-run costs; whether it will be able to do so in the future is a more complex matter. Judgments about an institution's ability to finance long-run costs can be problematic. Colleges and universities have great difficulty arriving at reasonable estimates of charges to be levied against current revenues and often underfinance such long-term expenditures as physical plant maintenance (Jenny 1979b).

Complexities such as these have led to efforts to develop concepts of financial condition that are more valid and comprehensive than the balanced-budget standard. One concept views financial condition in terms of changes in the risks a college faces. Risks may be non-financial (e.g., low morale) or financial (e.g., shrinking equity). Changes in these factors may be viewed as changes in the risks to the institution's ability to continue functioning at an acceptable level (Minter 1979).

A related way of viewing financial strength is to consider "forms of distress" affecting the ability of an institution to provide high-quality instruction, research, or public service. Forms of distress include "working capital distress" (the institution is unable to finance daily operating expenses), "demand-related revenue distress" (a result of lowered demand for the institution's services), "non-sales related revenue distress" (the institution cannot realize its historical levels of gift and endowment income), and "financial flexibility distress" (the institution's financial resources are so restricted that it has no flexibility in their use) (Collier 1979).

Monitoring Financial Condition

Armed with a concept of "sound financial condition," researchers have attempted to monitor financial condition through two types of research: subjective studies and objective financial indicator studies.

Some researchers claim that the concept of financial condition is necessarily subjective. They argue that, since money finances institutional purposes, shortages of money are meaningful only insofar as they hamper the attainment of purposes (Jenny 1979a), and that the financial condition of colleges and universities rests on "many intangible factors which defy quantification" (Minter & Bowen 1980). In this view, no financial variable has quite the same meaning for all institutions. Subjective studies look to an institution's definition of its purposes and its own assessment of the degree to which its resources allow it to attain those purposes.

In an influential 1971 work, Cheit grouped a sample of 41 colleges and universities according to their perceptions of their ability to meet self-defined responsibilities. Those "not in financial difficulty" indicated that they were meeting their responsibilities

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and could plan program growth with confidence. Those "headed for financial trouble" were meeting current responsibilities but were unsure they could do so for much longer. Those "already in financial difficulty" were unable to provide services or insure the quality essential to their programs. The notion that what is essential to some institutions may be less important or irrelevant to others is implicit in this and other subjective studies.

The usefulness of subjective studies depends largely on the reasons they are undertaken (Collier 1979). Such studies may be tenable if their express purpose is to gather constituent opinions about financial condition or to gauge the level of constituent satisfaction with expenditure patterns. The approach is not useful to those concerned with assessing *actual* changes in the financial condition of individual colleges and universities, nor is it helpful in comparing the relative condition of groups of institutions.

Efforts to overcome the limitations of subjective studies have resulted in a second approach to financial assessment — the use of objective financial indicators (often ratios) to reflect some aspect of institutional condition across all or some segment of higher education. Indicators are "statistics or statistical series that facilitate the quantitative description of the current state or condition of something, as well as pinpoint how and in what ways that condition is changing" (Collier & Patrick 1978).

An example of a commonly used financial indicator is the ratio of instructional expenditures to total educational and general expenditures. By monitoring trends in this ratio, or by comparing the ratio's value to those of peers, an institution can be alerted to possible over- or under-expenditure in the instructional area. Such information can be useful in setting compensation and teaching load policies.

Some financial indicators may entail non-financial data. The ratios of new freshmen to total applicants accepted or of full professors to total faculty have important financial implications.

The interpretation of a financial indicator rests on an assumption of what constitutes 'sound" financial condition. For example, overreliance on tuition income is frequently cited as evidence of weak financial condition. An institution's ratio of tuition income to total current-fund income is an indicator of tuition dependence; that indicator gauges financial condition to the extent that financial condition and tuition dependence are seen as synonymous. The literature reveals no single, summative indicator of financial condition; indeed, several hundred indicators have been proposed by theorists and researchers (Brubaker 1979), evidencing disagreement over definitions of financial well-being and indicator selection.

Two approaches to dealing with this disarray are evident in the literature on assessing institutional condition. The first and earliest approach uses financial "experts" to judge intuitively the relative financial condition of a sample of institutions. Through the use of discriminant analysis, the condition of other institutions is then inferred from their similarity to the characteristics of the sample group.

Lupton, Auginblick, and Heyison's "The Financial State of Higher Education" (1976) remains the most widely cited study of this type. The authors used data from the Higher Education General Information Survey (HEGIS) to construct 224 indicators, including financial ratios; trends in expenditures, revenues, and enrollments; and descriptions of institutional programs, offerings, and control for a subsample of 55 institutions. The indicators did not conform to any prior definition of financial health, but were as exhaustive a list of indicators as HEGIS data would allow the authors to construct. The indicators were provided to a panel of eight "experts" who used them to rate the 55 institutions as healthy, relatively healthy, neutral, relatively unhealthy, or unhealthy. Discriminant analysis was then applied to determine which indicators actually distinguished among the five groups of institutions. Finally, the 16 indicators found to discriminate were applied to the author's full 2,200 institution sample.

The 16 discriminating indicators included institutional control; enrollment trends; trends in educational and general expenditures; and ratios of current fund revenues to expenditures, academic expenditures to educational and general expenditures, freshmen FTEs to total undergraduate FTEs, and tuition and fees to student aid revenues.

Criticism of the Lupton study reflects the weaknesses of the "expert" approach to applying financial indicators. No definition of financial condition was provided to the judges; hence there was no assurance that they considered the same factors in rating institutions (Frances 1976). Absent such a definition, indicators that are statistically valid may still not be "intuitively descriptive" (Collier 1979). There are "generic shortcomings" in financial-condition studies that excessively rely on statistics and have insufficient understanding of the underlying financial concepts they purport to reflect (Frances & Stenner 1979).

To lessen such concerns, a second approach has been developed that uses a theoretical framework to guide the selection of indicators.

Collier and Patrick's study (1978) exemplifies this theory-based approach; methodologically, the work resembles that of Lupton et al., and in fact was undertaken to refine that study. Both projects used expert ratings to validate financial indicators; neither provided a definition of financial health. However, Collier and Patrick's experts were chosen for their familiarity with the institutions they were being asked to rate, and public and private institutional samples were analyzed separately. Collier and Patrick's theoretical framework was intended to define a set of dimensions that describe financial condition comprehensively. These dimensions include financial independence, revenue drawing power, financial risk, revenue stability, and reserve strength. Thirty-seven financial indicators were selected to reflect these dimensions. The experts were given detailed financial data on institutions in the sample and were asked to identify those they considered "decidedly strong" or "decidedly weak." Discriminant analysis was then used to determine whether or not the indicators constructed from HEGIS data would discriminate between the sample's institutions.

Indicators found to discriminate strong from weak public institutions suggest that the latter have less di-

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transfers, reflect financial health as mirrored, respectively, in financial liquidity and in the institution's ability to finance its current level of operations without new income. PMM ratios are intended to indicate whether the institution lived within its means during the year reported. Such ratios as net total revenues to total revenues, and net educational and general revenues to total educational and general revenues, are intended to reflect this dimension of financial condition. They measure, respectively, whether the year's current operations resulted in a deficit or a surplus, and whether educational and general revenues were adequate to meet expenditures.

Conclusions and Analysis

Efforts to monitor the condition of colleges and universities have arisen from concerns that economic and demographic pressures are undermining institutional financial integrity. The differences in approach described can be explained in part by considering the uses to which financial analyses can be put.

Subjective analyses of financial condition can be useful for gauging constituent satisfaction with financial performance and priorities. When subjective assessments from a group of institutions are aggregated (Cheit 1971), the results can provide an interesting snapshot of the institutions' perceived financial strengths, weaknesses, and trends.

Alternatively, efforts to create objective indicators reflect a desire to monitor measurable changes in financial condition and to maintain financial strength through the effective use of available resources. Moreover, because indicator values for individual institutions can be aggregated to show multi-institution trends, financial indicators can be useful devices for monitoring the condition of comparable institutions.

No single approach or indicator will reflect financial condition perfectly. Nevertheless, institutional administrators may find it useful to define dimensions of sound financial condition that they judge pertinent and then to monitor changes in indicators that reflect these dimensions. A growing dependence on tuition income or an increasing proportion of total expenditures devoted to debt service should alert the institution to the possibility of future financial difficulty. It is not necessary, in other words, that financial indicators be completely comprehensive and perfectly predictive in order to be useful. ■

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verse revenue sources, smaller end-of-year fund balances, and are more dependent on government appropriations. Those that discriminated between strong and weak private institutions suggest that the latter devote more of their expenditures to interest, rely more heavily on restricted revenues, have fewer reserves and less diverse funding sources, and devote fewer total expenditures to fixed accounts.

A second example of theory-based research attempts to reflect institutional financial condition by viewing it as a function of the state of three interacting organizational systems in higher education. First, an academic system contains the organizational elements that lead to student learning and faculty research productivity. Second, a financial system notes flows of institutional resources that result in surpluses or shortages. Third, the competitive market system comprises the buyer/seller relationship between the institution and prospective students (Dickmeyer 1983). The 38 indicators used in a study that applied this theory were intended to measure the stresses on the systems, the systems' responses to them, and the resulting condition of the systems. Indicators of stress included declines in enrollment, gift giving, endowment performance, and revenues. Indicators of response to stress included tighter budget-control procedures and increases in student-recruitment budgets. Finally, indicators of system condition included trends in institutional selectivity, faculty salaries, student-faculty ratios, and financial reserves.

Caveats

Researchers offer several caveats about the uses and limitations of financial indicators. First, the consistency with which given indicators reflect the condition of diverse institutions is a critical issue to those who would use them to compare institutions. For example, because of differences in their financial structures, many statistics do not have the same meaning for both public and private institutions (Stenner 1978). Institutional mission, location, student body composition, and methods of financing were found to affect the comparability of financial statistics within a group of community colleges (Dickmeyer & Hughes 1979a). Such findings lead researchers to conclude that the more homogenous the financial structure and educational mission of the group of institutions studied, the more valid interinstitutional comparisons of condition will be (Frances & Stenner 1979).

Technical considerations of research methodology, statistical procedures, and validity and reliability of data affect the usefulness of financial indicators (Frances & Stenner 1979). Some studies have misinterpreted institutional trend data by failing to take account of general economic trends such as recession and inflation. The validity and reliability of HEGIS data has been controversial since they are institution-reported and unverifiable. There are lags between data reporting and publication that may lead to outdated conclusions. Indirect state support for institutions, including direct aid to students and the provision of central services such as libraries, are not reported through HEGIS; this can lead to data comparability problems in interstate comparisons (Frances & Stenner 1979, Patrick & Collier 1979, Ryland 1981).

Several researchers are skeptical about what financial indicators can tell us about institutional condition. In the case of public institutions and major research universities, internal measures of condition may be irrelevant; because they depend on government grants and appropriations, tax capacity, demographic trends, and other environmental measures may be more revealing (Hughes 1979). Also, fund ratios can reflect only past and current finances and cannot measure the ability of an institution to bring in new funds or make budget reforms (Dickmeyer 1979). One of the most important factors in institutional condition is quality of management; indicators are probably not capable of measuring that characteristic directly (Finn 1979).

Finally, the *significance* of financial distress depends on the institution (Collier 1979). For example, two institutions may demonstrate identical levels of financial distress. But, if one can rely on ongoing constituent support, the distress is less significant.

Applying Financial Indicators

Such caveats notwithstanding, the literature offers several suggestions to individual institutions for applying financial indicators.

One approach to evaluating financial condition is available in workbook form to small, private colleges. It is based on calculating changes in financial indicators selected to reflect financial strength, estimated risk, and changes in financial and non-financial resources. Its premise is that "a college's overall condition can be meaningfully characterized by measuring available resources, trends in these resources, and the institution's special need for these resources" (Dickmeyer & Hughes 1979b).

Updegrove (1982) considers prospects for developing a computer-based approach to assessing comparative institutional financial condition. It would be based on data-sharing among subscribers to EDUCOM's Education Financial Planning Model. EFPM is an interactive financial modeling system that allows users to specify assumptions about revenue and expenditure levels, to determine which combinations are feasible and to make comparative financial assessments.

Financial indicators can be useful in college and university strategic planning and accreditation self-study efforts (Dickmeyer 1982, Haywood 1982). Both are concerned with assessing strengths and weaknesses that bear on institutional quality and viability. Trends in departmental costs per student, the ratio of financial reserves to current-fund expenditures, and the ratio of restricted revenues to total revenues can provide evidence of changes in financial strength. It is important to note, however, that the selection of particular indicators should rest on explicit assumptions about which financial characteristics are most salient for assessing the institution's condition.

Some accounting firms, most notably Peat, Marwick, Mitchell and Company (PMM) (Minter, Nelson, & Robinson 1980), provide their college and university clients with financial ratios as adjuncts to audited financial statements. Such ratios as expendable fund balances to plant debt, and expendable fund balances to total expenditures and mandatory

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